are those enzymes that have appropriately reactive surface available histidines or which have a histidine tag that can be added through site specific mutagenesis. This includes, or course, polyhistidine. Histidine forms a strong bond with iminodiacetic acid salts, such as copper, zinc, cobalt, and nickel iminodiacetate salts, and nitrilotriacetic acid salts, such as copper, zinc, cobalt, and nickel salts. The main criterion for this process to be effective is that the binding site on the enzyme be far away from or innocuous to the function of the enzyme's catalytic site. While silica is the preferred inorganic surface because it is relatively inexpensive and its properties are well understood, any type of metal oxide ceramic particles that can be formed similar to the Stober process starting with a metal alkoxide precursor can be used. Other types of inorganic surfaces that can be used in the process of the present invention include alumina, baria, titania, and zirconia.

B1 cont.

Please amend the claims as follows.

Please cancel claims 1 and 2.

3. (Twice amended) A method for stabilizing enzymes comprising:

genetically engineering an enzyme to include one or more terminal histidine residues;

copolymerizing an amphiphile containing a salt selected from the group consisting of metal salts of iminodiacetic acid, nitrilotriacetic acid, and mixtures thereof with other polymerizable amphiphiles to form vesicles; and

B2

binding the genetically engineered enzyme to the salts on the outer surface of the vesicles;

wherein the bound enzyme is catalytically active.

Please cancel claim 5.

9. (Twice amended) A method for stabilizing enzymes comprising:

genetically engineering an enzyme to include one or more terminal histidine residues; and

attaching the enzyme to salt groups selected from the group consisting of metal salts of iminodiacetic acid, metal salts of nitrilotriacetic acid, and mixtures thereof on the surface of a particulate inorganic carrier;

B3

wherein the bound enzyme is catalytically active.

Please cancel claims 16-20.

B4 21. (Amended) The method of claim 9, wherein the enzyme includes a terminal polyhistidine chain.

22. (New) The method of claim 9, wherein the enzyme is thioesterase.

B5 23. (New) The method of claim 9, wherein the bound enzyme is capable of detoxifying a nerve agent.

24. (New) The method of claim 3, wherein the enzyme includes a terminal polyhistidine chain.